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IS 10942 (2000): Ferrule [MED 10: Wire Ropes and Wire Products]

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(पहला पुनरीक्षण)

Indian Standard

FERRULE — SPECIFICATION

(*First Revision*)

ICS 53.020.30; 77.140.65

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

December 2000 **Price Group 2**

Wire Ropes and Wire Products Sectional Committee, ME 10

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Wire Ropes and Wire Products Sectional Committee had been approved by the Mechanical Engineering Division Council.

This standard was first issued in 1984. The changes that have taken place in the wire rope industry have been incorporated in this first revision.

Ferrules are employed in large quantities in wire rope terminals. Their quality and strength play a great role in safety aspects of the sling. Hence this standard prescribes extensive testing procedure.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 OCTOBER 2008
TO
IS 10942 : 2000 FERRULE — SPECIFICATION

(First Revision)

[*Page* 2, *clause* 3.2.1, *Table for Type* A *and Type* B *Ferrule*] — Substitute the table given on page 2 of this Amendment for the existing:

All dimensions in millimeters.

Type	*Ferrule Code*	*Length Before Pressing, Min, L*	*Length After Pressing, Min*	*Thickness, Min T*	*Suitable for Actual Wire Rope Size*	
					Lower Limit	Upper Limit
1	2	3	4	5	6	7
Type A	3	11	17	1.61	2.90	3.15
	4.5	18	22	1.70	4.40	4.75
	6	19	23	2.10	5.85	6.30
	8	27	34	3.00	7.85	8.40
	9	30	34	3.50	8.80	9.45
	10	32	35	3.75	9.80	10.50
	11	36	43	5.25	10.75	11.55
Type B	13	45	53	4.20	11.75	13.65
	15	46	58	4.50	13.76	15.75
	17	50	60	5.20	15.76	17.85
	19	56	62	5.90	17.86	19.99
	21	62	70	6.20	20.00	21.99
	23	78	96	7.55	22.00	23.99
	25	83	100	8.00	24.00	25.99
	27	92	108	8.85	26.00	27.99
	29	98	114	9.85	28.00	29.99
	31	101	115	10.00	30.00	31.99
	33	105	118	11.07	32.00	33.99
	35	108	136	11.20	34.00	35.99
	37	115	144	11.80	36.00	37.99
	39	121	152	12.50	38.00	39.99
	41	127	160	13.10	40.00	41.99
	43	134	168	13.80	42.00	43.99
	45	141	177	14.60	44.00	46.99
	48	151	189	15.50	47.00	50.00
	51	160	201	16.50	50.00	52.99
	54	169	213	17.40	53.00	55.99
	57	178	224	18.40	56.00	58.99
	60	188	236	19.40	59.00	61.99
	63	197	248	20.30	62.00	64.99
	66	206	259	21.30	65.00	67.99
	69	216	271	22.20	68.00	70.99

(MED 10)

Reprography Unit, BIS, New Delhi, India

Indian Standard

FERRULE — SPECIFICATION

(First Revision)

1 SCOPE

This standard covers the requirements for the ferrules used in making eye terminals of wire ropes for 3 to 52 mm nominal diameters.

2 REFERENCES

The following Indian Standards contain provisions, which through reference in this text constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
1285 : 1975	Specification for wrought aluminium and aluminium alloy extruded round tube and hollow sections (for general engineering purposes) (*second revision*)
1500 : 1983	Method for Brinell hardness test for metallic materials (*second revision*)
5245 (Part 2) : 1971	Method for splicing of wire ropes: Part 2 Wire rope sling legs with ferrule secured eye terminal
6912 : 1985	Specification for copper and copper alloy forgings

3 TYPES AND DIMENSIONS

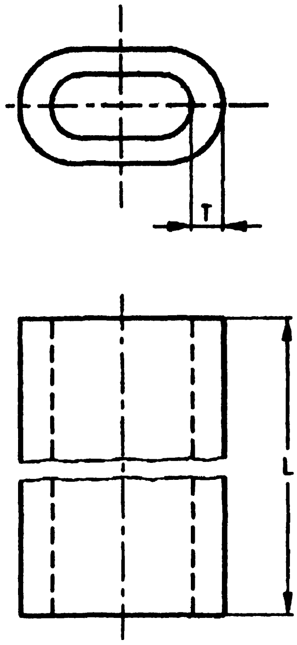
3.1 Types

Ferrules shall be manufactured in three types, namely, standard (Type A), slimline (Type B) and conical (Type C).

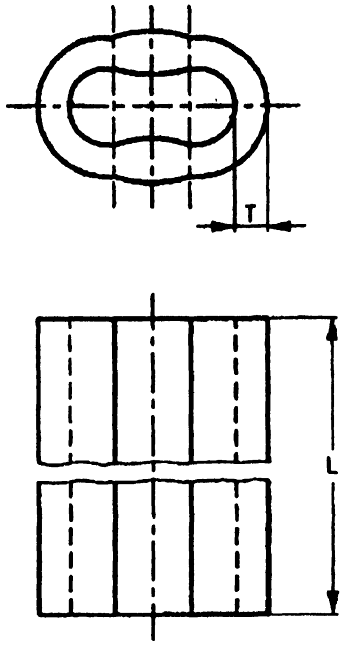
3.2 Dimensions

Dimensions shall be as given in **3.2.1** for Types A and B and in **3.2.2** for Type C

3.2.1 *Types A and B*



TYPE A

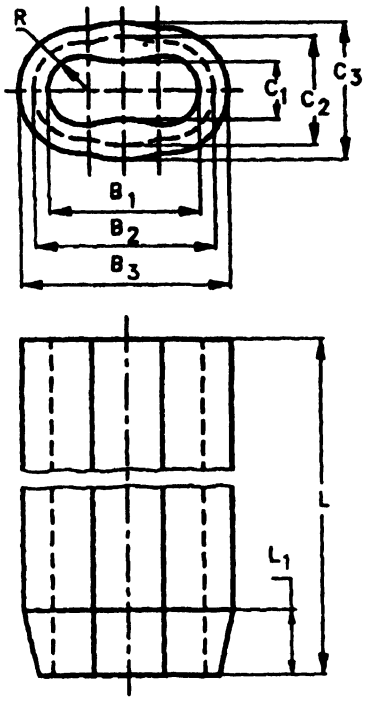


TYPE B

All dimensions in millimetres.

Type	*Ferrule Code*	*Length Before Pressing, Min, L*	*Length After Pressing, Min*	*Thickness, Min T*	*Suitable for Actual Wire Rope Size*	
					Lower Limit	Upper Limit
1	2	3	4	5	6	7
Type A	3	11	17	1.61	2.90	3.15
	4.5	18	22	1.7	4.40	4.75
	6	19	23	2.1	5.85	6.30
	8	27	34	3.0	7.85	8.40
	9	30	34	3.50	8.80	9.45
	10	32	35	3.75	9.80	10.50
	11	36	43	5.25	10.75	11.55
	35	108	128	14.30	34.00	35.99
	37	115	138	15.30	36.00	37.99
	39	121	152	16.10	38.00	39.99
	41	127	161	17.00	40.00	41.99
	43	134	169	18.00	42.00	43.99
	45	141	180	18.40	44.00	46.99
	52	189	217	16.80	50.00	52.99
Type B	13	45	53	4.2	11.75	13.65
	15	46	58	4.5	13.76	15.75
	17	50	60	5.2	15.76	17.85
	19	56	62	5.90	17.86	19.99
	21	62	70	6.20	20.00	21.99
	23	78	96	7.55	22.00	23.99
	25	83	100	8.00	24.00	25.99
	27	92	108	8.85	26.00	27.99
	29	98	114	9.85	28.00	29.99
	31	101	115	10.00	30.00	31.99
	33	105	118	11.07	32.00	33.99
	40	164	178	14.80	47.00	50.00

3.2.2 *Type C*



TYPE C

All dimensions in millimetres.

Ferrule Code	L	L_1	B_1	B_2	B_3	C_1	C_2	C_3	R	*Suitable for Nominal Wire Rope Diameter with -1%+4% Tolerance*
1	67	15	30	35	41	14	24	27	7.3	12
2	80	17	33.53	40	44	15	27	28	8.3	14 to 15
3	91	20	37.5	45	50	17	30	33	9.3	16
4	103	26	42.5	51	50	19	33	37	10.5	18 and 19
5	167	34	59.5	72	80	27	46	53	15	26

4 MATERIAL

The ferrules shall be manufactured from aluminium alloy to designation 52000 of IS 1285. The ferrule may also be manufactured from copper alloy conforming to IS 6912.

4.1 Hardness

Unless otherwise specified in the contract or order the hardness of the ferrule material shall not be less than 40 HB (*see* IS 1500).

4.2 Workmanship

The ferrule shall be free from defects and shall be certified by a competent person before assembly.

5 DESIGNATION

The ferrule of Type 'A' and of ferrule code 6 conforming to IS 10942 shall be designated as follows:

Ferrule A x 6 IS 10942

6 TESTS

6.1 Prototype Test

Two sling legs with ferrule secured eye terminal shall be made with each size of ferrule and subjected to the following tests:

a) *Prototype Breaking Force Test* — In accordance with **7.2** of IS 5245 (Part 2).

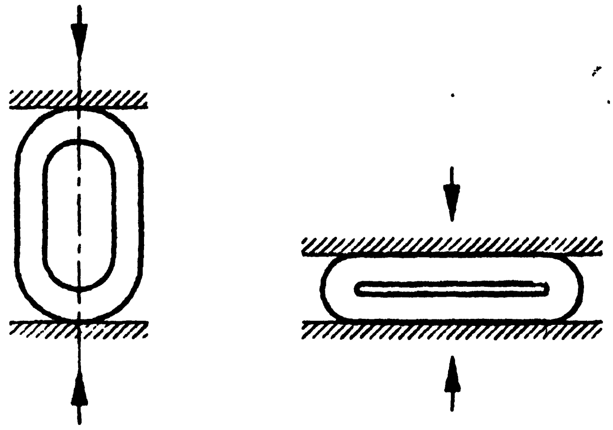
b) *Prototype Durability Test by Pulsatory Loading (Endurance Test)* — In accordance with **7.3** of IS 5245 (Part 2).

After the completion of above tests, all ferrules shall be examined for cracks and for indications of wire pulling-out. In case crack or other defects are found, sling legs made with particular type of ferrule under consideration shall be deemed not to comply with the tests.

6.2 Routine Test

6.2.1 *Flattening Test*

Ferrules shall be pressed along the major axis until the inner surfaces meet.



After the completion of the test there shall be no visible crack on the ferrule.

6.2.2 For overhead cranes and ropeways mechanical spliced slings in use should be checked after every 200 loadings for slippage and breakage at the point of job. In case the slippage or breakage is observed, in sample shall be discarded.

7 MARKING

7.1 Ferrule shall be marked with designation (*see* 5), the manufacturers' name, initials or recognized trade-mark, the year of manufacture and nominal size. The marking shall be such that it does not erase out easily and lasts till the ferrule is pressed for making sling.

7.2 BIS Certification Marking

The product may also be marked with the Standard Mark.

7.2.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which a license for the use of Standard Mark may be granted to the manufacturers or the producers may be obtained from the Bureau of Indian Standards.

8 PACKING

Ferrules shall be packed as agreed to between the purchaser and the manufacturer.

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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